

Internal Peripherals Update Guide

**HP 3000/9x9KS and HP 9000/Kxx0
Enterprise Servers**



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New editions of this manual incorporate all material updated since the previous edition. The manual printing date and part number indicate its current edition. The printing date changes when a new edition is printed. (Minor corrections and updates which are incorporated at reprint do not cause the date to change.) The manual part number changes when extensive technical changes are incorporated.

| | |
|---------------------|-----------|
| February 1995..... | Edition 1 |
| September 1995..... | Edition 2 |
| January 1996..... | Edition 3 |
| June 1996..... | Edition 4 |
| July 1997..... | Edition 5 |
| January 1998..... | Edition 6 |

Change Narrative

- Edition 6 technical changes include the addition of HP9000/K380/K580 information throughout the manual.
- Minor changes and updates were also incorporated.

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Preface

This edition of the HP 3000/9x9KS and HP 9000/Kxx0 Internal Peripherals Upgrade Guide contains technical information about HP 9000 class servers, HP VISUALIZE Kxx0 (EG and XP) workstations, and HP3000 9x9KS servers.

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1 Introduction

This guide describes the installation of internal peripherals into HP 3000/9x9KS and HP 9000/Kxx0 servers.

Contents of this guide:

- Chapter 1: Introduction
- Chapter 2 Installation Procedures

Electrostatic Discharge (ESD) Precautions

When installing peripherals, you must observe the following antistatic precautions to prevent damage to peripherals and system components from electrostatic discharge:

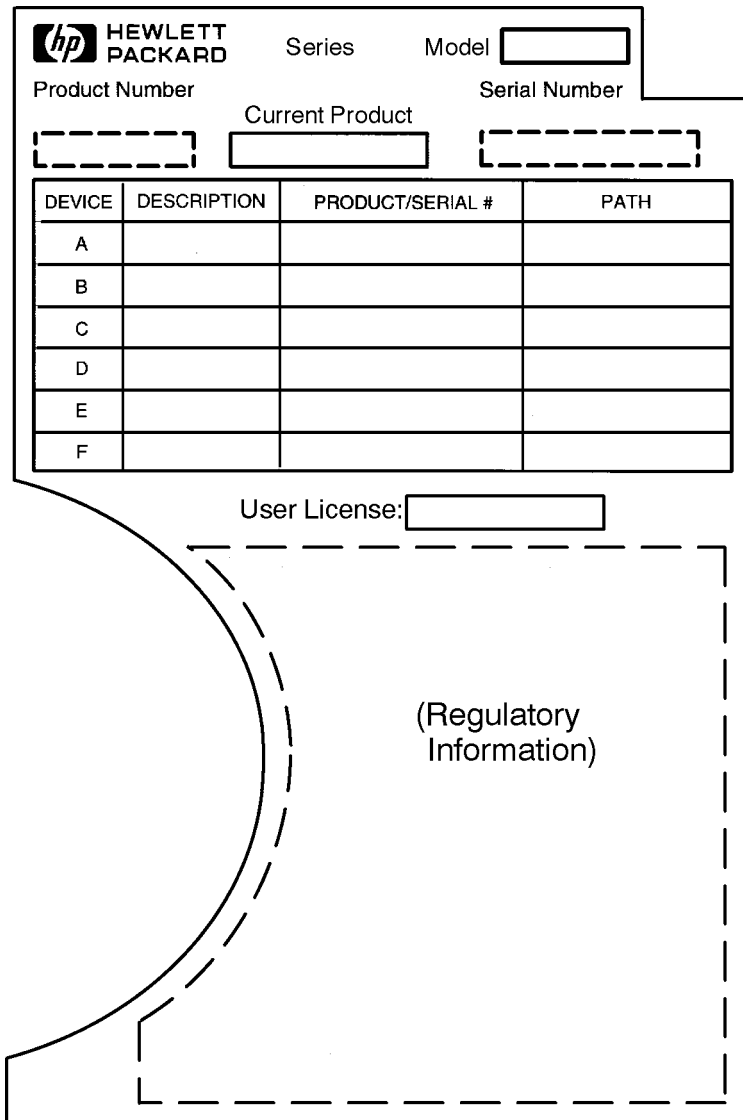
- Always wear a grounded wrist strap when working on or around the system, and when handling printed circuit boards.
- Treat all assemblies, components, and interface connections as static-sensitive.
- Perform all removal and installation in a work area where potential static sources are minimized (preferably an anti-static work station).
- Avoid working in carpeted areas, and keep body movement to a minimum while removing and installing boards to minimize buildup of static charge.

System Identification

The system identification label is located on the inside of the front door. The label contains the model of your system and information about previously installed upgrades.

Identifying HP 3000 Servers

Figure 1-1 HP 3000/9x9KS System Identification Label



The form contains the following fields and sections:

- HP logo and HEWLETT PACKARD text.
- Series:
- Model:
- Product Number:
- Serial Number:
- Current Product:
- A table with 4 columns: DEVICE, DESCRIPTION, PRODUCT/SERIAL #, and PATH. It has 6 rows labeled A through F.
- User License:
- A large dashed box containing the text "(Regulatory Information)".

| DEVICE | DESCRIPTION | PRODUCT/SERIAL # | PATH |
|--------|-------------|------------------|------|
| A | | | |
| B | | | |
| C | | | |
| D | | | |
| E | | | |
| F | | | |

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Identifying HP 9000 Servers

Figure 1-2

Figure 1-2. HP 9000/Kxx0 System Identification Label

**HEWLETT
PACKARD** Series Model
 Product Number Current Product Serial Number

| DEVICE | DESCRIPTION | PRODUCT/SERIAL # | PATH |
|--------|-------------|------------------|------|
| A | | | |
| B | | | |
| C | | | |
| D | | | |
| E | | | |
| F | | | |

(Regulatory Information)

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**HEWLETT
PACKARD** Product No: Serial No:

(Regulatory Information)

 Current Product
Made in U.S.A.

Orderly Power Down

Refer to your HP 3000/9x9KS Operator's Handbook or HP 9000/Kxx0 Owner's Guide for appropriate power-off commands for your system.

System Back Up

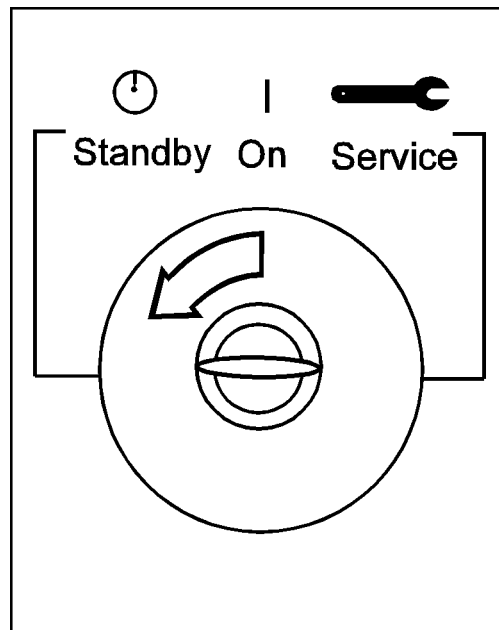
NOTE If you are replacing, adding, or reconfiguring hard disks, back up your existing hard disks.

Turning Off Power

After alerting users and backing up your hard disks:

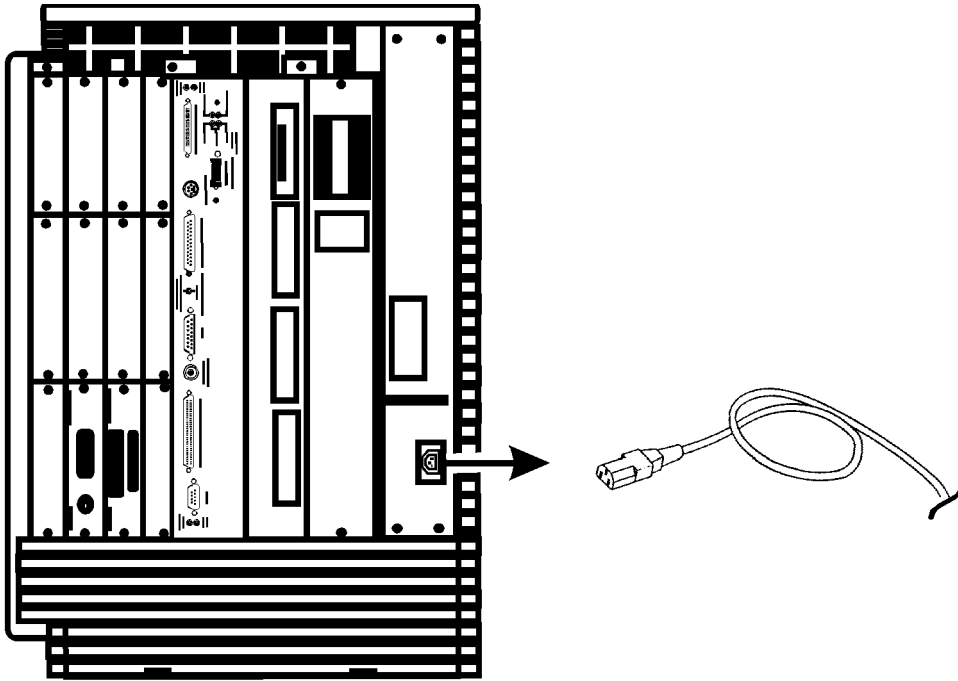
1. Turn the system front key switch to the Standby position. The front panel LCD reads "Power Off".
2. Disconnect the power cord at the back of the system cabinet.

Figure 1-3 Turn Off Power (Set Key Switch to StandBy)



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Figure 1-4 Disconnect the Power Cord from the System Cabinet



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Introduction
Orderly Power Down

2 Installation Procedures

Gaining Access to Peripherals

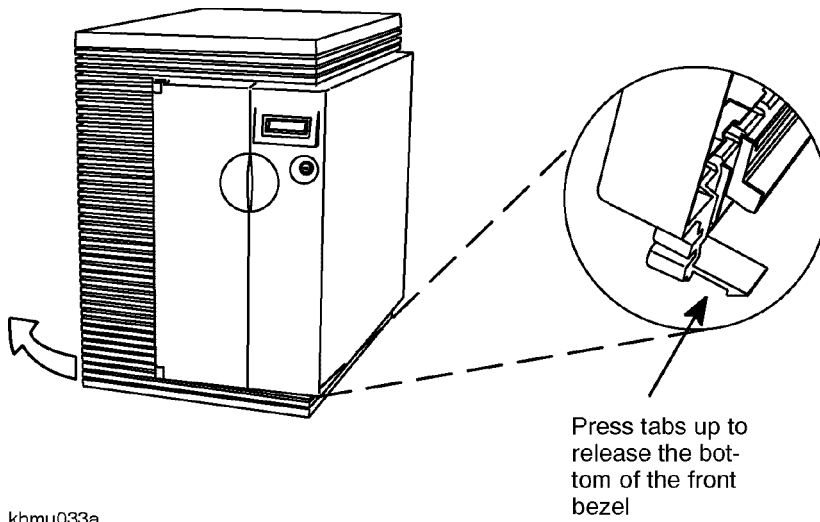
All internal peripherals are located inside the peripheral bay and are accessible from the front of the SPU.

Front Bezel Removal

Refer to Figure 2-1 for location of front bezel. To remove the front bezel:

1. Press two tabs at the bottom of the front bezel to release the bezel.
2. Remove the front bezel by gently pulling forward from the bottom of the bezel and lifting up.

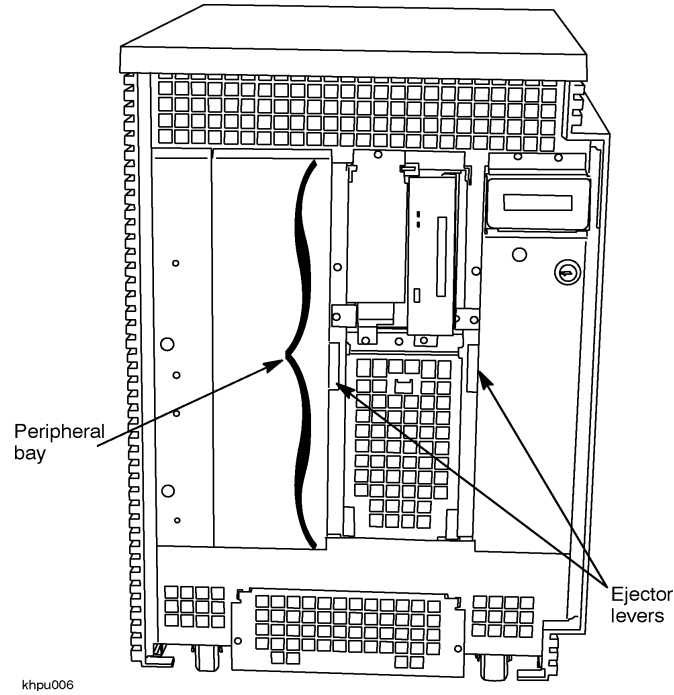
Figure 2-1 **Front Bezel Removal**



Installation Procedures
Gaining Access to Peripherals

The internal peripheral bay is now accessible. All internal peripherals are mounted in an internal peripheral bay that slides out (see Figure 2-2 for location of peripheral bay).

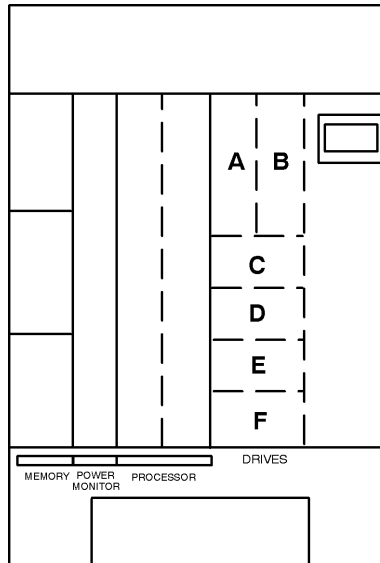
Figure 2-2 **Peripheral Bay Location**



Peripheral Location and Identification

Refer to Figure 2-3 to locate and identify internal peripheral devices. The system identification label on the inside of the system cabinet door lists all current devices.

Figure 2-3 Peripheral Device Location and Identification



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Key to Figure 2-3:

A, B: Slots for removable media, such as:

- DDS tape drive
- 8mm tape drive (HP 9000 only)
- CD-ROM drive

C-F: Slots for hard disk drives.

Peripheral Configuration

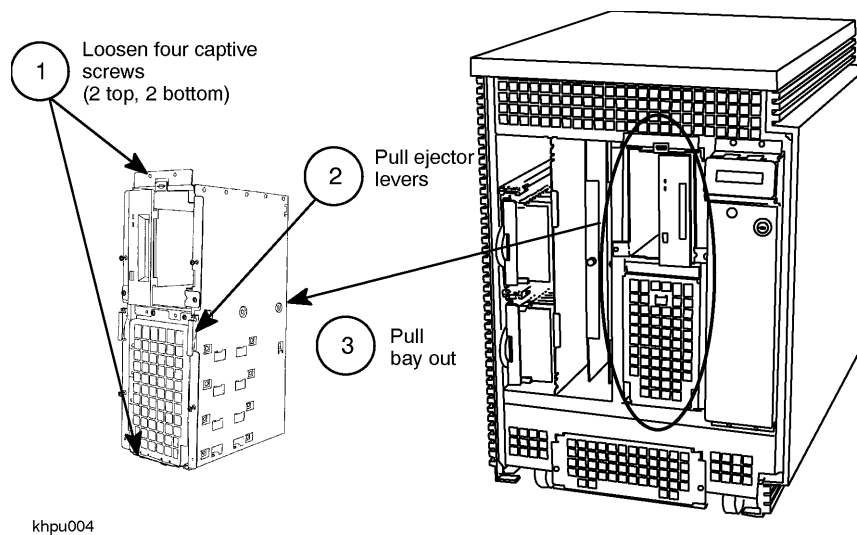
Refer to the peripheral installation manual for detailed specification and configuration information about the peripheral device. Refer to the appropriate peripheral manual for troubleshooting, maintenance, and diagnostic information.

Removing the Peripheral Bay

Refer to Figure 2-4. All internal peripherals are mounted in the internal peripheral bay. This bay is held in place with four captive screws. To remove the peripheral bay:

1. Loosen the four captive screws (item 1).
2. Pull the white plastic ejector levers (item 2) toward you. The bay will move forward slightly, disengaging the bay from a system board connector.
3. Pull the bay all the way forward and out of the system chassis (item 3). Data and power to all internal peripherals are supplied by a peripheral interconnect card on the rear of the bay, so there are no cables to disconnect.

Figure 2-4 Removing The Peripheral Bay From The System Cabinet



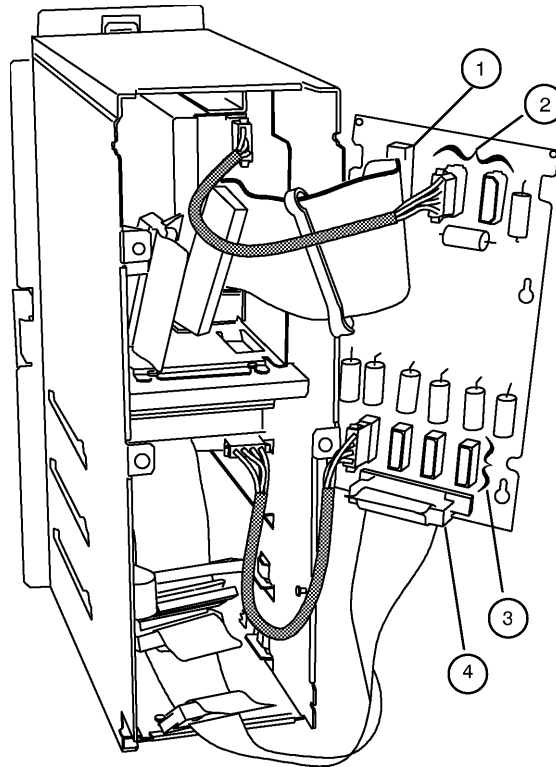
Peripheral Interconnect Board and DC Power Connectors

Refer to Figure 2-5 for the location of the Peripheral Interconnect Board and DC Power Connectors. To gain access to the peripheral interconnect board and peripheral DC and data connections:

1. Turn the peripheral bay so the back faces you.
2. The peripheral interconnect board attaches loosely to the back of the peripheral bay, by sliding over four posts. Slide the board up and pull it toward you to access the connectors on the inside of the peripheral interconnect board.

There are six DC power connectors (4-prong female connectors), two for the upper bay peripherals and four for the hard disks. Data connections are made via two ribbon connectors, one for the upper bay peripherals and one for the system hard disks (see Figure 2-5).

Figure 2-5 Peripheral Interconnect Board including DC and Data Connectors



khpu001

Key to Figure 2-5:

- Item 1: The top ribbon connector attaches to the upper bay removable media peripherals.
- Item 2: The top two DC power connectors attach to the upper bay peripherals in any order.
- Item 3: The bottom four DC power connectors can be attached to the hard disks in any order.
- Item 4: The bottom ribbon connector attaches to the system hard disks.

Physical Installation

Hard Disk Drive Installation

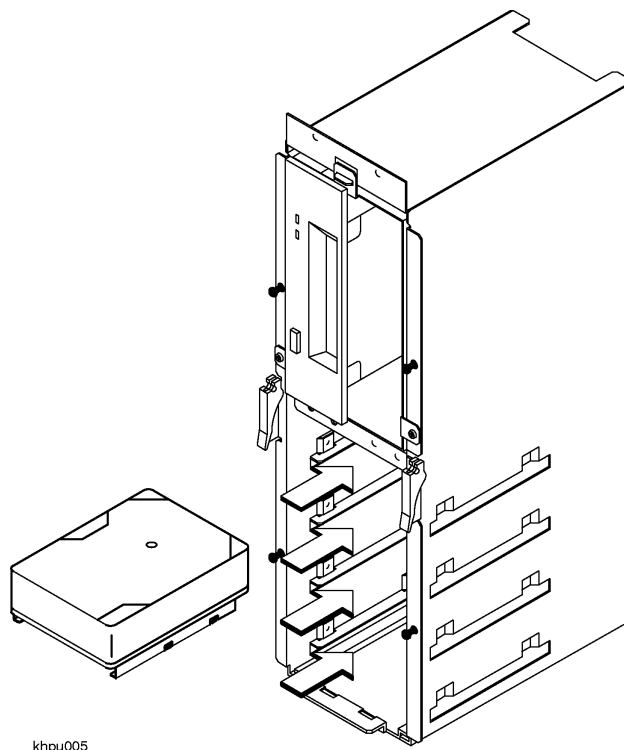
All hard disk drives sit on mounting tabs and attach to the peripheral bay with four screws, two on each side. The hard disks install from the bottom up. To install a new drive:

1. Remove the front grill by loosening the captive screw at the top. Set the grill aside.
2. Slide in the new hard disk from the front.
3. Connect the DC and data cables at the rear of the bay.

NOTE All connectors are keyed to prevent incorrect installation. The connectors on the data cable can be installed in any order, but you may have to move connectors between drives to accommodate cable lengths. The bottom hard disk is typically connected to the data cable connector closest to the peripheral interconnect board.

4. Attach the disk drive to the peripheral bay with four screws.
5. Reinstall the front grill.
6. Slide the peripheral bay back into the system chassis.
7. Attach the peripheral bay to the system chassis with the four captive screws.

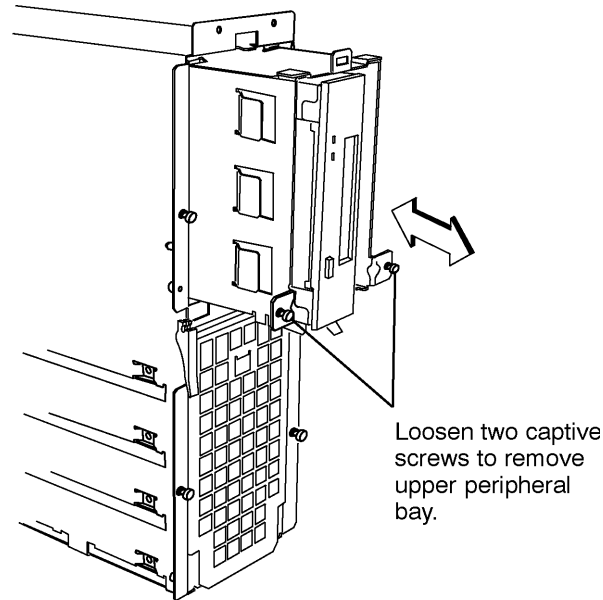
Figure 2-6 Disk Drive Installation



Removable Media Installation (Tape, CD-ROM, Floppy Drives)

All removable media devices install in the upper bay. In order to mount the devices, it is necessary to remove the upper bay compartment from the peripheral bay.

Figure 2-7 Removing the Upper Bay Peripheral Compartment



khpu002

1. Loosen the two captive screws holding the upper bay compartment in place.
2. Slide the compartment out.
3. Insert the new peripheral in from the front of the bay. Be sure to orient the peripheral correctly; with the top to the right.
4. Attach the peripheral to the top and bottom of the compartment with eight screws (two per device, top and bottom).
5. Reinstall the compartment, securing it with the two captive screws.
6. Attach the DC power cable at the rear of the compartment.
7. Attach the data cable to the data connector.

NOTE

All connectors are keyed to prevent incorrect installation. The connectors on the data cable can be installed in any order, but you may have to move connectors between drives to accommodate cable lengths. The bottom hard disk is typically connected to the data cable connector closest to the peripheral interconnect board.

System Reassembly, Power On, and Verification

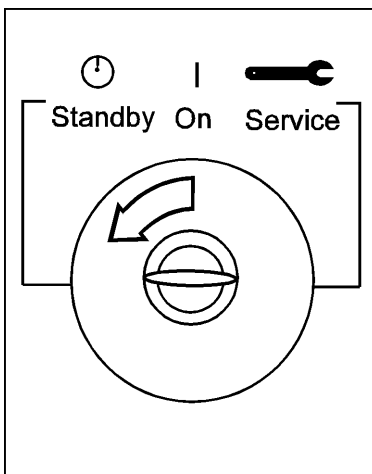
Reassembling the System

1. Reinstall the peripheral interconnect card.
2. Slide the peripheral bay back into the system chassis.
3. Secure the peripheral bay with four captive screws.
4. Replace the bezel by inserting the top edge of the bezel under the cabinet top. The bezel hangs on a hinge hidden by the cabinet top.
5. Push the bezel in gently at the bottom to seat the bezel against the front of the cabinet.

System Power On

1. Be sure that the system key switch is still in the "Standby" position (refer to Figure 2-8).

Figure 2-8 System Key Switch in "Standby" Position

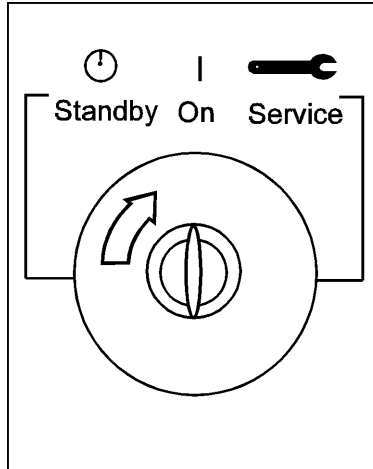


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2. Reattach the system power cable.

3. Turn "ON" all system peripherals (refer to Figure 2-9). Be sure all peripherals are on with no error indications.
4. Turn on the system by setting the key switch to the "ON" position.

Figure 2-9 System Power On (Key Switch to the ON Position)



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Refer to the System Administrator's Guide for configuration procedures. The computer Owner's Guide has the address path information needed for the configuration procedures.

Verify System Operation

To verify correct operation of newly installed hardware, refer to the Operator's Handbook (HP 3000) or Owner's Guide (HP 9000) supplied with your system.

